

**Amendments to the Specification:**

Please amend the specification as follows:

Please replace the paragraph starting at page 2, line 16, with the following rewritten paragraph:

In other words [[wards]], in another aspect of the present invention, a vehicle external recognition system comprises: relative position detecting means for detecting an object ahead of a vehicle as a detected object to detect a relative position relationship between the detected object and the vehicle; relative velocity calculating means for calculating a relative velocity between the detected object and the vehicle based on the relative position relationship detected by the relative position detecting means by using an initial value that is preset; vehicle velocity detecting means for detecting a velocity of the vehicle; and motion attribute discriminating means for discriminating a motion attribute, indicative of a motion state of the detected object, based on the relative velocity calculated by the relative velocity calculating means and the velocity detected by the vehicle velocity detecting means.

Please replace the paragraph starting at page 4, line 12, with the following rewritten paragraph:

In FIG. 1, a laser radar 1 typically includes a scanning type laser radar disposed at front end of [[a]] the vehicle VH, that is, an own vehicle VH<sub>1</sub>, and serves to detect an object ahead of the own vehicle. Here, the laser radar 1 is not based on detection theory that enables a relative velocity to be directly detected through a Doppler effect provided by a device such as a millimeter wave radar.

Please replace the paragraph starting at page 4, line 28, with the following rewritten paragraph:

And, a pickup image result of the image pickup device 3 is inputted to the image processing device 4, which stores image data close proximity to a positional coordinate of the obstacle candidate captured by the radar processing device 2, and executes detection through image processing of the radar-detected object, which is lost ~~when the radar-detected object as~~

the obstacle candidate is lost due to pitching or rocking of the own vehicle. Then, a detected result of the image processing device 4 is inputted to the external recognition device 10.

Please replace the paragraph starting at page 9, line 1, with the following rewritten paragraph:

More particularly, if an absolute value in a ~~differential value~~ difference between the own vehicle speed  $V_{sp}$  and a current value  $V_{ry2}(0)$  of the second relative velocity is equal to or less than a threshold value  $Th$ , discrimination is made that the detected object is a "stationary object". Moreover, if the second relative velocity  $V_{ry2}(0)$  is greater than a sum of the own vehicle speed  $V_{sp}$  and the threshold value  $Th$ , then, discrimination is made that the forward object is an "oncoming vehicle". Further, if the second relative velocity  $V_{ry2}(0)$  is less than a value derived by subtracting the threshold value  $Th$  from the own vehicle speed  $V_{sp}$ , discrimination is made that the forward object is a "moving object that is running in the same direction as the own vehicle ". Incidentally, the threshold value  $Th$  is a positive value that is appropriately determined upon consideration of a detecting precision of the laser radar 1 or the like.

Please replace the paragraph starting at page 10, line 30, with the following rewritten paragraph:

And, if discrimination is made that there exists the emergency running state, that is, when notification is made that there exists the obstacle object, such as the stopped vehicle, ahead of the own vehicle on the same travel lane as that of the own vehicle, since a provability exists in which newly detected object is the stopped vehicle, processing is routed to step S10 where the second relative velocity  $V_{ry2}(0)$ , calculated on the supposition that the detected forward object is the stationary object, is determined as the relative velocity  $V_r$  of the forward object for use in brake control operation of the automatic brake control device 12, and using such a value compels the automatic brake control device 12 to control the negative pressure brake booster 14 for actuating the brake. On the contrary, if discrimination is made that ~~[[here]]~~ there exists no emergency running state, that is, when notification is made that there exists no obstacle object, such as the stopped vehicle, present ahead of the own vehicle on the same travel lane as that of the own vehicle, since a high provability exists in which the

detected object is not the stopped vehicle, processing is routed to step S11 where first relative velocity  $V_{r1}(0)$ , calculated on the supposition that the detected forward object is the moving object that is running in the same direction at the speed as those of the own vehicle, is determined as the relative velocity  $V_r$  of the forward object for use in brake control operation.

Please replace the paragraph starting at page 12, line 14, with the following rewritten paragraph:

Now, suppose that the laser radar 1 detects ~~[[the]]~~ an object under a circumstance where no object is detected ahead of the own vehicle, due to the presence of the object being first detected, processing proceeds through steps S1 and step S2 and is routed from step S3 to step S4 where in accordance with the above formulae (1) to (4), the first relative velocity  $V_{r1}$ , calculated on the supposition that the detected object is the object that is moving in the same direction as that of the own vehicle at an equal speed, and the second relative velocity  $V_{r2}$ , calculated on the supposition that the detected object is the stationary object, are set to have respective initial values.

Please replace the paragraph starting at page 12, line 23, with the following rewritten paragraph:

And, when this takes place, since the object is first detected, there exists no object being detected, that is, processing is routed from step S5 directly to step S12 where current values of the first and second relative velocities are ~~updated to include~~ used to update the values in the past by one sampling period whereupon current processing is terminated.

Please replace the paragraph starting at page 14, line 22, with the following rewritten paragraph:

As set forth above, the automatic brake control device 12 executes brake control operation based on the first relative velocity  $V_{r1}$  calculated on supposition that the forward object is the object that is moving in the same direction as that of the own vehicle. When this takes place, since the forward moving object is actually the object that is moving in the same direction as that of the own vehicle and the first relative velocity  $V_{r1}$  is calculated to have a value that is close proximity to zero as shown in FIG. 5, discrimination can be quickly made

that the moving object is the object that is moving in the same direction as that of the own vehicle. And, the automatic brake control device 12 executes brake control operation based on such a relative velocity. That is, ~~as shown in FIG. 4~~, the first relative velocity  $Vr1$  converges to a true relative velocity more quickly than that attained when the detected object is supposed to be the stationary object, as shown in FIG. 4, and depending upon such a value that exists in a range close proximity to the true relative velocity, brake control operation can be more accurately executed.